

Attorney Docket: 313KA/36119CO

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: TORU TAKAMIZAWA ET AL.

Serial No.: 08/620,541

Group Art Unit: 3682

Filed: MARCH 25, 1996

Examiner: L. Footland

Title: PRELOADING METHOD FOR PRELOAD-ADJUSTABLE
ROLLING BEARING AND MANUFACTURE OF THE SAME

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

COPY

Sir:

Please amend claims 58 and 59 as follows prior to examination:

58. (Three times amended) A preload-controllable bearing apparatus comprising first and second members which are rotatable relative to each other,

the first member having first and second raceway portions which are fixed in a direction to come closer relative to each other with reference to the first member,

the second member having a third raceway portion which is opposed to the first raceway portion of the first member with a first ball row therebetween, and a fourth raceway portion which is opposed to the second raceway portion of the first member with a second ball row therebetween,

the third raceway portion being fixed in a direction to be separated from the fourth raceway portion with reference to the second member,

the fourth raceway portion being fitted to the second member with an interference so as to be movable relative to each other,

the interference causing a force against movement which is larger than the axial reaction force to a preload to be exerted through the first raceway portion, the first ball row, the third raceway portion, the fourth raceway portion, the second ball row, the second raceway portion and the first raceway portion,

the preload being adjustable based on an axial pressure to be applied to between the fourth raceway portion and the second member, and

the first member being an outer ring while the second member being a shaft extending through the outer ring[, and

the third and fourth raceway portions being an independent member fitted to the shaft].

59. (Three times amended) A preload-controllable bearing apparatus comprising first and second members which are rotatable relative to each other,

the first member first and second raceway portions which are fixed in a direction to come closer to each other with reference to the first member,

the second member having a third raceway portion which is opposed to the first raceway portion of the first member with a first ball row therebetween, and a fourth raceway portion which is opposed to the second raceway portion of the first member with a second ball row therebetween,

the third and fourth raceway portions being fitted to the second member with an interference so as to be movable relative to each other,

the interference causing a force against movement which is larger than the axial reaction force to a preload to be exerted through the first raceway portion, the first ball row, the third raceway portion, the fourth raceway portion, the second ball row, the second raceway portion and the first raceway portion,

the preload being adjustable based on an axial pressure to be applied to between the third raceway portion and the fourth raceway portion, and

the first member being an outer ring while the second member being a shaft extending through the outer ring[, and

the third and fourth raceway portions being an independent member fitted to the shaft].

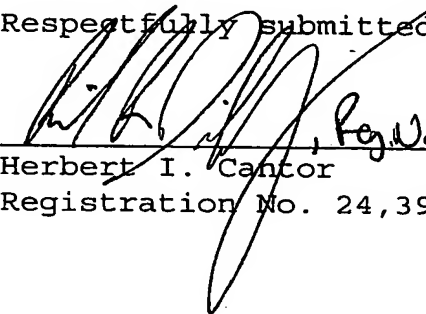
REMARKS

Upon entry of this Preliminary Amendment, claims 58-75 will remain in this application and will be presented for examination.

The amendments to claims 58 and 59 above eliminate the language in these claims considered objectionable by the Examiner. It is respectfully submitted that claims 58 and 59 fully comply with the requirements of 35 U.S.C. § 112, second paragraph.

Respectfully submitted,

February 14, 2000

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